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a second silicon layer mounted to the first silicon layer; and  
means disposed in an inner region located between the first silicon layer and the second silicon layer for providing double-sided electrical contacts for the space transformer, the contacts comprising land grid array side contacts and semiconductor side contacts, said land grid array side contacts having dimensions and spacing less larger than said semiconductor side contacts.

17. (Original) The space transformer according to claim 16, wherein the means for providing comprises a contact pattern comprising electrically conductive material.

**REMARKS**

Reconsideration of this Application is respectfully requested. Upon entry of the foregoing Amendment to the Claims, claims 10-17 are currently pending in the instant application, of which claims 10, 14 and 16 are independent. By the foregoing Amendment, claims 10, 14 and 16 are sought to be amended. No new matter is embraced by this amendment and its entry is respectfully requested. Based on the above Amendment and the remarks set forth below, it is respectfully requested that the Examiner reconsider and withdraw all outstanding rejections.

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## **I. Objection to the Claims**

Claims 10-17 have been objected to for containing the phrase "said land grid array side contacts having dimensions and spacing less than said semiconductor side contacts." Applicant would like to thank the Examiner for having pointed out the above discrepancy between the quoted language above and the subject matter disclosed in the original application. It is clear that, as pointed out by the Examiner, the quoted language constituted a typographical error on the part of the drafter. In response, claims 10, 14, and 16, which claims contain the offending language, have been amended having taken the Examiner's concerns into account.

In view of the above, the Examiner is respectfully requested to reconsider and withdraw his objection to the claims.

## **II. Rejection under 35 USC 103(a)**

### **A. Van Pham et al. in view of Eldridge et al.**

Claims 10-12, 14 and 16-17 have been rejected under 35 USC 103(a) as being unpatentable over Van Pham et al. in view of Eldridge et al. Reconsideration is respectfully requested.

The Examiner's Action reiterates that Van Pham et al. disclose a space transformer. However, as stated previously and on a number of occasions, Van Pham et al. disclose neither the function nor the structure of a space transformer. Instead, Van Pham et al. refer to an interposer having a structure that is not designed to convert a micro pitch scale to a macro pitch scale as described with respect to embodiments of the

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present invention. The feature of land grid array side contacts having dimensions and spacing that is more than the dimensions and spacing of semiconductor side contacts, as recited in independent claims 10, 14 and 16, is simply missing from Van Pham et al. First, as seen in Fig. 4 in Van Pham et al., there is no land grid array side to the interposer 10, since the interposer is not a space transformer. There is a die side 14 and a substrate side (or substrate bonding surface) 16. In addition, as seen in Fig. 4, in fact, the contacts and spacing on the die side (arguably corresponding semiconductor side contacts) having dimensions and spacings that are in fact larger (see space between contacts 18) than the dimensions and spacings of contacts on the other side (in this case the substrate side). The long and the short of it with respect to Van Pham et al. is that (1) they do not disclose a space transformer; (2) that, although there is disclosed in Van Pham et al. a structure that is adapted to be positioned between a semiconductor and another element (in Van Pham et al.'s case, a substrate), that fact alone does not justify the leap into the argument that, as a result, that structure can be a space transformer; and (3) that, in any event, even if one were, for argument's sake, to make the leap in (2) above, one would at best arrive at a structure that has contacts having dimensions and a spacing on the semiconductor side which are larger than on the other side of the structure (contrary to embodiments of the instant invention). As a result, Van Pham et al. in fact teach away from Examiner's combination of the references.

As also noted previously, Eldridge et al. do nothing to overcome the deficiencies in Van Pham et al. There is no suggestion in either Van Pham et al. or in Eldridge et al. to combine the references as suggested by the Examiner to arrive at embodiments of the

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instant invention as recited in independent claims 10, 14 and 16. If Van Pham et al. were modified in view of Eldridge et al. as suggested by the Examiner, the interposer therein would stop working for its intended purpose. There is, as noted above, a disincentive for modifying Van Pham et al. as suggested by the Examiner.

In view of the above, it is respectfully requested that the Examiner reconsider and withdraw his rejection of the claims under Section 103(a) as being unpatentable over Van Pham et al. in view of Eldridge et al.

**B. Van Pham et al. in view of Eldridge et al., further in view of Petrarca et al., and Matsuo et al.**

Claims 13 and 15 have been rejected under Section 103(a) as being unpatentable over a combination of Van Pham et al., Eldridge et al., further in view of Petrarca et al., and Matsuo et al. Reconsideration is respectfully submitted in view of the following comments.

Petrarca et al. and Matsuo et al. have been cited for their disclosure of an adhesion promoter. These references, however, fail to make up for the deficiencies of Van Pham et al. and of Eldridge et al. noted above.

In view of the above, it is respectfully requested that the Examiner reconsider and withdraw his rejection of the claims under Section 103(a) as being unpatentable over Van Pham et al. in view of Eldridge et al. and further in view of Petrarca et al. and Matsuo et al.

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P12663**CONCLUSION**

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all currently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Response is respectfully requested.

Respectfully submitted,

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